

NOVEMBER/DECEMBER 2025

**FEL53/CEL53 — ELECTRICAL AND  
ELECTRONIC INSTRUMENTATION**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define accuracy.
2. What are the things component is used for conversion of DC volt meter.
3. What is the use of kelvin's bridge?
4. Define Wein's bridge.
5. Which material is usually coated in CRO?
6. What effect of negative voltage applied to the grid?
7. List out the applications for instrumentation amplifier.
8. Explain the term wave Analyzer.





9. What is the range of platinum resistance thermometer?
10. Which pin on the LCD is used to control the contrast?

SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL questions.

11. (a) Write a note on Random errors.  
Or  
(b) Explain the working of electrodynamic movement with neat diagram.
12. (a) Describe the operation of wheatstone bridge used precision measurement.

Or

- (b) Detailed about how the frequency is determined in bridge.
13. (a) Explain the function of digital storage oscilloscope.

Or

- (b) Write a short note on deflection sensitivity.

14. (a) Give an account on frequency-selective wave Analyser.

Or

- (b) Explain the function of local oscillator of spectrum Analyser.

15. (a) Explain the elements sensed by metallic strain gage.

Or

- (b) Describe the working principle of seven segment display and LVDT.

SECTION C — ( $3 \times 10 = 30$  marks)

Answer any THREE questions.

16. Elaborate the function of watt hour meter.
17. Illustrate the schering's bridge for the measurement of capacitance.
18. Describe the working of sampling oscilloscope.
19. Explain the working principle of function generator.
20. Detailed about the construction of unbounded strain gage and LCD.

